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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,142	06/30/2003	Ashoke Ravi	P-5783-US	8192

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EXAMINER	
YUN, EUGENE	

ART UNIT	PAPER NUMBER
2618	

DATE MAILED: 08/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/608,142	RAVI ET AL.	
	Examiner	Art Unit	
	Eugene Yun	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-11,13-21 and 23-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-11,13-21 and 23-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 June 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 11, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holdaway (US 4,198,604) in view of Gabara (US 6,175,285) and Treatch (US 4,802,235).

Referring to Claim 1, Holdaway teaches an apparatus comprising a tuner to tune an oscillation frequency of an oscillator to a value between a first free-running frequency of a first oscillation tank and a second free-running frequency of a second oscillation tank (see fig. 6 where three oscillators are present, one tuned to 280 MHz, one to 2.05-3.60 GHz one placed in between them tuned to 1753.6 MHz which is in between the other 2 frequencies).

Holdaway does not teach the tuner connected between first and second paths of said oscillator. Gabara teaches the tuner connected between first and second paths of said oscillator (see col. 2, lines 36-50 where the tuning signal is injected between the first and second paths). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Gabara to the device of Holdaway in order to provide more accurate and precise operation.

The combination of Holdaway and Gabara does not teach the first path including said first oscillation tank and a first scaler, the second path including said second oscillation tank and a second scaler, wherein the first scaler is to produce a first gain in said first path, and wherein the second scaler is to produce a second gain in said second path. Treatch teaches the first path including said first oscillation tank 51 (fig. 5) and a first scaler 52 (fig. 5), the second path including said second oscillation tank 55 (fig. 5) and a second scaler 54 (fig. 5), wherein the first scaler is to produce a first gain in said first path, and wherein the second scaler is to produce a second gain in said second path (see col. 6, lines 1-20). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Treatch to the modified device of Holdaway and Gabara in order to better operate with varying frequencies in a single unit.

Claim 21 has similar limitations as Claim 1.

Referring to Claim 11, Holdaway teaches a wireless communication device comprising:

A dipole antenna to send and receive wireless communication signals (see col. 1, lines 18-31 noting that the use of FM band signals usually involves the use of a dipole antenna); and

An oscillator comprising a tuner to tune an oscillation frequency of an oscillator to a value between a first free-running frequency of a first oscillation tank and a second free-running frequency of a second oscillation tank (see fig. 6 where three oscillators

are present, one tuned to 280 MHz, one to 2.05-3.60 GHz one placed in between them tuned to 1753.6 MHz which is in between the other 2 frequencies).

Holdaway does not teach the tuner connected between first and second paths of said oscillator. Gabara teaches the tuner connected between first and second paths of said oscillator (see col. 2, lines 36-50 where the tuning signal is injected between the first and second paths). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Gabara to the device of Holdaway in order to provide more accurate and precise operation.

The combination of Holdaway and Gabara does not teach the first path including said first oscillation tank and a first scaler, the second path including said second oscillation tank and a second scaler, wherein the first scaler is to produce a first gain in said first path, and wherein the second scaler is to produce a second gain in said second path. Treatch teaches the first path including said first oscillation tank 51 (fig. 5) and a first scaler 52 (fig. 5), the second path including said second oscillation tank 55 (fig. 5) and a second scaler 54 (fig. 5), wherein the first scaler is to produce a first gain in said first path, and wherein the second scaler is to produce a second gain in said second path (see col. 6, lines 1-20). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Treatch to the modified device of Holdaway and Gabara in order to better operate with varying frequencies in a single unit.

3. Claims 3-10, 13-20, and 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holdaway, Gabara, and Treatch and further in view of Igarashi et al. (US 5,950,143).

Referring to Claims 3, 13, and 23, the combination of Holdaway, Gabara, and Treatch does not teach an adder to add first and second signal components passing through said first and second paths. Igarashi also teaches an adder to add first and second signal components passing through said first and second paths (see col. 12, lines 21-27). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Igarashi to the modified device of Holdaway, Gabara, and Treatch in order to better reduce interference between oscillation signals.

Referring to Claims 4, 14, and 24, Igarashi also teaches the first and second gains as complimentary (see col. 12, lines 28-37).

Referring to Claims 5, 15, and 25, Igarashi also teaches the sum of the first and second gains as substantially constant (see col. 12, lines 21-27).

Referring to Claims 6, 16, and 26, Igarashi also teaches the sum of the first and second gains as substantially equal to one (see col. 1, lines 21-27).

Referring to Claims 7, 17, and 27, Igarashi also teaches the tuner able to control the relative values of said first and second gains (see col. 12, lines 28-37).

Referring to Claims 8 and 18, Igarashi also teaches first and second amplifiers on said first and second paths, respectively, to provide said first and second gains, respectively (see col. 10, lines 15-22).

Referring to Claims 9 and 19, Igarashi also teaches controlling first and second voltages applied to said first and second amplifiers, respectively (see col. 10, lines 22-41).

Referring to Claims 10 and 20, Igarashi also teaces the first path comprising a first transconductor and the second path comprising a second transconductor (see col 9, line 66 to col. 10, line 14).

Response to Arguments

4. Applicant's arguments with respect to claims 1, 3-11, 13-21, and 23-27 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eugene Yun whose telephone number is (571) 272-7860. The examiner can normally be reached on 9:00am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew D. Anderson can be reached on (571)272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Eugene Yun
Examiner
Art Unit 2618

EY

Matthew D. Anderson
Supervisory Patent Examiner